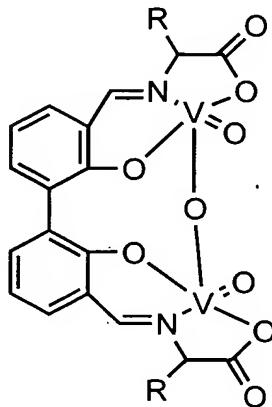


WHAT IS CLAIMED IS

1. A chiral catalyst used for oxidative coupling of naphthols, which is a novel vanadium complex of Schiff's base formed by a chiral amino acid and a formyl biphenol or its derivatives, wherein it has the general formula:



5

where R represents a benzyl, an isopropyl, an isobutyl or a tertiary butyl and the configuration of the amino acid is *R* or *S*.

2. The chiral catalyst according to claim 1, wherein said R is a benzyl when the configuration of the amino acid is *S*.

10 3. The chiral catalyst according to claim 1, wherein said R is an isopropyl when the configuration of the amino acid is *S*.

4. The chiral catalyst according to claim 1, wherein said R is an isobutyl when the configuration of the amino acid is *S*.

15 5. The chiral catalyst according to claim 1, wherein said R is a tertiary butyl when the configuration of the amino acid is *S*.

6. The chiral catalyst according to claim 1, wherein said R is a benzyl when the configuration of the amino acid is *R*.

7. The chiral catalyst according to claim 1, wherein said R is an isopropyl when the configuration of the amino acid is *R*.

20 8. The chiral catalyst according to claim 1, wherein said R is an isobutyl when the configuration of the amino acid is *R*.

9. The chiral catalyst according to claim 1, wherein said R is a tertiary butyl when the

configuration of the amino acid is *R*.

10. A process for preparing a chiral catalyst used for oxidative coupling of naphthols, which consists of following steps:

5 a. To water was solved a chiral amino acid and sodium acetate;

b. A solution of 3'3-bi-formly -biphenol in a mixed reagent of EtOH and THF was added to the solution obtained by step a, and the reaction mixture was stirred for 1~3 hours at 70~90 °C;

c. An aqueous solution of 25%VOSO₄ was added to the resulting mixture, then it was cooled to ambient temperature; after stirring it for 1~3 hours, the catalyst was produced.

10 11. The process for preparing a chiral catalyst according to claim 10, wherein in step a the solution was stirred for 5~15 minutes at 40~60 °C when a chiral amino acid and sodium acetate was solved to water.

12. The process for preparing a chiral catalyst according to claim 10, wherein in step b the weight ratio of the mixed reagent to 3'3-bi-formly -biphenol is 20~25:1 and in mixed reagent 15 the volume ratio of EtOH to THF is 1:1.

13. The process for preparing a chiral catalyst according to claim 10, wherein the molar ratio of the chiral amino acid, sodium acetate, water, 3'3-bi-formly-biphenol to VOSO₄ is 1.2:2.4:100~150: 0.5: 1.1.

14. A use of a chiral catalyst used for oxidative coupling of naphthol for the preparation 20 of binaphthol or its derivatives, wherein with naphthol or its derivatives as stating material and oxygen as oxidize agent, 1~10mol% of the chiral catalyst can catalyze the oxidative coupling reaction to produce high optically pure binaphthol or its derivatives.